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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|-------------------------|------------------|
| 09/909,910 | 07/23/2001 | Yoshio Sano | Q65531 | 9164 |
| 7590 | 06/28/2004 | | EXAMINER DONG, DALEI | |
| SUGHRUE, MION, ZINN, MACPEAK & SEAS 2100 Pennsylvania Avenue, N.W., Washington, DC 20037 | | | ART UNIT 2879 | PAPER NUMBER |

DATE MAILED: 06/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/909,910

Applicant(s)

SANO ET AL.

Examiner

Dalei Dong

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46, 48, 50-52 and 55-97 is/are pending in the application.
- 4a) Of the above claim(s) 3, 4, 6-46, 48, 50-52 and 55-97 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2 and 5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,249,264 to Sano in view of U.S. Patent No. 5,900,694 to Matsuzaki.

Regarding to claims 1-2 and 5, Sano discloses in Figure 4, "the reference numeral 11 indicates a first substrate which is a front substrate formed of, for example, a transparent glass; 17 indicates a transparent dielectric layer; and 18 indicates a protective layer formed of, for example, MgO. These members 11, 17, 18, and the following X, Y electrodes XE, YE constitute what is called a "front panel". Further, the reference numeral 21 indicates a second substrate which is a rear substrate; and 22 indicates an address electrode (A electrode) of a predetermined width formed by printing and firing a pattern of a silver paste. These members 21 and 22, and the following members 29, 50, 28 constitute what is called a "rear panel". The PDP 1A is formed by sticking peripheral portions of the front and rear panels together and sealing subsequently" (column 20, lines 32-45).

Sano also discloses in Figure 4, "as a general rule, the dielectric layer 17 together with the protective layer 18 will be called a "dielectric" (which will be used in the

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following second and third preferred embodiments and their modifications as well)”
(column 20, lines 46-50).

Sano further discloses in Figure 4, “reference numeral 28R indicates a phosphor emitting red light R (visible light of a predetermined wavelength) by absorbing an ultraviolet ray of a predetermined wavelength emitted from Xe atom; 28G indicates a phosphor emitting green light G; and 28B indicates a phosphor emitting blue light B. The phosphors 28R, 28G, and 28B are generically called a phosphor 28” (column 20, lines 51-57).

Sano further yet discloses in Figure 4, “reference numeral 29 indicates a barrier rib of a first type formed of a material capable of reflecting visible light and arranged in strips; 30 indicates a discharge space filled with discharge gas including the Xe atoms, such as Penning gas; 41 indicates a strip transparent conductive film (hereinafter referred to as a transparent electrode) consisting of a tin oxide layer or the like; 42 indicates a strip metal film (hereinafter referred to as a metal electrode) consisting of multiple films such as Cr--Cu--Cr or Cr--Al--Cr; and the reference character EG indicates one pixel. The pixel EG consists of three unit luminescent areas EU.sub.R, EU.sub.G, EU.sub.B emitting red light R, green light G, and blue light B, respectively (which are generically called a unit luminescent area EU)” (column 20, line 58 to column 21, line 4).

Sano further yet discloses in Figure 4, “reference character S indicates a display surface which is part of the outside surface of the first substrate 11 (second main surface); XE and YE are X and Y electrodes, respectively, arranged at predetermined intervals in parallel with each other on the inside surface of the first substrate 11 (first main surface)

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and extending along a first direction D1. Each of the X and Y electrodes XE and YE consists of the transparent electrode 41 (main electrode), and the metal electrode 42 (sub-electrode) which reduces resistance of the main electrode. The reference numeral 50 indicates a barrier rib of a second type extending along the first direction D1 so as to intersect with the barrier rib of the first type 29. The barrier rib of the second type 50 consists of the same materials as the barrier rib of the first type 29 (for example, a glass paste as a base material). This preferred embodiment is characterized by the barrier rib of the second type 50" (column 21, lines 5-21).

However, Sano does not disclose a single sustain electrode is provided in common for a first and second pixel cell adjacent to each other in the column direction with notch or cutaway portions between adjacent pixel cells. Matsuzaki teaches in Figure 6a, "three main discharge electrodes 6 and 19 are provided for each two display cell lines, and the central electrode 7 among the three main discharge electrodes 6 and 19 is provided so as to extend over the two display cell lines. According to this arrangement, it is desirable that a bus electrode 192 of the central main discharge electrode 19 among the three main discharge electrodes 6 and 19 has branchlike members 18b on both sides, and the bus electrodes 62 of the other main discharge electrodes 6 have branchlike members 18b on one side, and the aforementioned bus electrodes 62 of the other main discharge electrodes 6 are arranged so that the sides thereof on which the branchlike members 18b are provided face the central main discharge electrode 7. The reason is that since the panel is configured like this, the periphery of each display cell can be surrounded by the bus electrodes" (column 8, line 62 to column 9, line 10).

Matsuzaki also teaches in Figure 6a, “according to a further example of the present invention, the main discharge electrodes are provided for each display cell line along the extending direction of the display electrodes, and each main discharge electrode is provided so as to extend over two display cell lines. In this case, it is desirable to provide the branchlike members of each bus electrode on both sides of the bandlike member of the bus electrode” (column 9, line 11-18).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have construct the sustain electrode of Sano with sustain electrode of Matsuzaki provided in common for a first and second pixel cell adjacent to each other in the column direction in order to provide a high emitting efficiency and being able to emit a bright light and a better contrast while reduce the manufacturing process difficulties; furthermore to perform a discharge emitting display with a relatively small consumption of power.

Response to Arguments

3. Applicant's arguments filed May 20, 2004 have been fully considered but they are not persuasive.

In response to Applicant's argument that Sano reference and the Matsuzaki reference fails to teach or suggest a display electrode portion which has a notched portion or a cut-away portion between adjacent pixel cells in the row direction. Examiner asserts that Matsuzaki reference clearly teaches in Figures 6A and 6B, display electrodes or main discharge electrodes 6 and 19 have notch or cut-away portion between adjacent pixel

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cells in the row direction. Thus, Examiner asserts that the prior art of record teaches the claimed invention and maintains the rejection.

Also, in response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Sano reference and Matsuzaki reference both teaches a plasma display panel device, where the display electrodes of the Matsuzaku reference are arranged in order to provide a wider opening or viewing area and thus achieve higher brightness and contrast. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilize the display electrode of Matsuzaki for the plasma display device of Sano in order to achieve wider viewing area and thus leads higher brightness and contrast for the display device.

Further, in response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include

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knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper.

See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalei Dong whose telephone number is (571)272-2370. The examiner can normally be reached on 8 A.M. to 5 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on (571)272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

D.D.

June 14, 2004



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